

Australia's unique, ancient geological landscapes? Any person with a curiosity in landscapes and landforms, be they professional geologists, students of geology, or interested amateurs, will find interest in this book. For some, this could be a useful book to take with them on journeys throughout Australia to enable them to gain a better understanding of the geology of the landscapes that they pass through. Others may take a special interest in deciding to agree or disagree with some of the ideas offered by the author. If natural landscapes, their ages and their dynamic evolutionary history are of interest to you, at whatever level, this book is for you.

References

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Bettongs, potoroos and the Musky Rat-kangaroo

by Andrew Claridge, John Seebeck and Randy Rose

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Bettongs and potoroos have not fared well since European settlement in Victoria. The three species of bettongs once present in the state—the Brush-tailed Bettong, the Rufous Bettong and the Tasmanian Bettong—have disappeared. Of Victoria's remaining rat-kangaroos, the vulnerable Long-nosed Potoroo has a reduced range and the endangered Long-footed Potoroo occurs in few localities. A similar pattern of decline has taken place across much of Australia. However, as this new book shows, it's not all bad news.

Bettongs, potoroos and the Musky Rat-kangaroo provides a comprehensive account of Australia's eleven species of modern rat-kangaroos. It covers a wide range of subjects on this intriguing suite of species including: distribution and habitat requirements; taxonomy; biology and behaviour; diet; research methods; and conservation management. The opening chapter focuses on early rat-kangaroo discoveries, and documents the decline of a number of species. Two of the more exciting events discussed are the discovery of the Long-footed Potoroo in east Gippsland in 1967 and the fortuitous re-discovery of Gilbert's Potoroo in Western Australia in 1994 (it had been presumed extinct for 120 years).



Clear maps of each species' distribution, descriptions of habitat associations and a summary of classification provide a good entry point into the study of rat-kangaroos in Chapters 2 and 3. Rat-kangaroos are cryptic animals and it is rarely possible to observe them in the wild. Chapter 4 outlines the novel field methods used to study them and provides useful summaries of techniques such as direct trapping, radio tracking and the use of hair tubes. Here the authors share a number of useful insights from their extensive experience in the field, including tips on handling individuals and methods of returning the displaced young of captured animals back into the mother's pouch.

Chapters 5 and 6 detail the biology, behaviour and reproductive biology of rat-kangaroos, while Chapter 7 focuses on the diet of rat-kangaroos. Here the interesting relationship with underground fruiting fungi or 'truffles' is explored. The authors explain that the fruiting bodies of many of these truffle species form a beneficial symbiotic relationship with the roots of trees and shrubs (called mycorrhizae). A number of rat-kangaroo species feed on these fungi and aid in the dispersal of their spores by carrying them in their fur or by passing them on in scats. Chapter 8 focuses on the habitat requirements of rat-kangaroos. The discussion of the influence of fire is particularly detailed throughout the final chapters and provides a well-considered summary of the complex role that fire may play in creating rat-kangaroo habitat.

Chapter 9 outlines the conservation and management of rat-kangaroos. The threats to rat-kangaroos and reasons for decline are summarised, and include habitat loss, introduced predators and altered fire regimes (the usual suspects). The book finishes with a summary of conservation and recovery programs recently conducted or currently underway. Some of the best news is from Victoria where results from 'Project Deliverance' indicate populations

of Long-nosed Potoroos can increase significantly following fox control. The Southern Ark Project, where fox control has been undertaken to include one million hectares in East Gippsland, also looks very promising.

Overall, the book flows well and is written in a clear and effective style. The authors cover a number of topics very well throughout each of the nine chapters (and 182 pages). A useful reference list of research papers at the end of the book allows subjects of interest to be followed up in detail. My only criticism is that I would like to have seen more discussion of the role that rat-kangaroos play in the functioning of Australian ecosystems, particularly their potential influence on surface soils. However, there is only a small body of literature on this subject and it is not a major detraction.

Recently I was fortunate enough to spend some time at Scotia Sanctuary in western New South Wales. Here the Australian Wildlife Conservancy is reintroducing a number of endangered mammals to large, fenced off areas in the Murray Mallee region. Among them is the Brush-tailed Bettong. These curious marsupials are once again foraging, digging and interacting with mallee landscapes (albeit behind fox-proof fences). The conservation and recovery programs underway in several states, coupled with the growing knowledge base of the ecology of rat-kangaroos presented in this book, suggest that the threats facing rat-kangaroos may not be insurmountable. *Bettongs*, *potoroos* and *the Musky Rat-kangaroo* will be of interest to naturalists, students, land managers and ecologists.

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